

Dr. Allan Kozlowski

Read about new post-doctoral fellow Dr. Allan Kozlowski on *Page 2*.

CROR Publications

A list of recent CROR manuscripts, abstracts, and presentations is on *Page 7*.

Upcoming Conferences

Read about the upcoming education opportunities in Chicago and Atlanta on *Page 6*.

Winter 2011 Edition: Rehabilitation Measures Online



In the first issue of 2011, we discuss an exciting project that aims to gather assessment instruments for clinicians in one free and easy-to-access online location. You are invited to test the website, located at www.rehabmeasures.org, and tell us what you think!

We also discuss a new project being led by Dr. Linda Ehrlich-Jones that evaluates motivational interviewing as a technique for encouraging physical activity in people with arthritis.

You'll also read about new educational

opportunities coming up: A summer institute on measurement in Chicago this June, and a course about quality measures in rehabilitation in Atlanta this fall. See inside for details about these and other educational opportunities from the Center for Rehabilitation Outcomes Research.

We also highlight a very important collaborator, Terrie Black, as well as our new post-doctoral fellow, Allan Kozlowski. Read about them inside.

Don't forget to "like" us on [Facebook!](#)
Allen Heinemann, Director

Terrie Black Provides Nursing Perspective

Terrie Black, MBA, BSN, RN, BC, CRRN, always knew she wanted to be a nurse. Now after working in rehabilitation for more than 20 years, she is bringing her expertise and insight to the Rehabilitation Research and Training Center (RRTC) on Improving Measurement of Medical Rehabilitation Outcomes at the Rehabilitation Institute of Chicago.

As the representative (and a past President) of the Association of Rehabilitation Nurses (ARN) on the RRTC's advisory committee, she is acting as a liaison with the rehabilitation nursing community.

Black attends yearly meetings in Chicago, as well as communicating by email about ongoing projects within the Center. Advisory committee members are often asked to provide input about research plans, patient recruitment, and dissemination of important outcomes. "I can share the perspective of rehabilitation nurses," said Black. "I make sure the information gets back and forth between the RRTC and ARN."

For instance, she recently filled out a survey for clinicians to provide feedback on an RIC database of rehabilitation assessment instruments, which is being developed by Jennifer Moore, a physical therapist and RIC's manager of internal education. Sharing that information through ARN's Health Policy Digest, Black wrote about the project and sent a request out to the more than 6,000 members of the rehab nurses' asso-

...Continued on Page 4

Creating a One-stop Shop for Patient Assessment Instruments

It sounds like a clinician's dream: a single place to go to find assessment tools on everything from pain levels to mobility. At its best, it would be a kind of Consumer Reports for rehab—a comprehensive list of measures with information about sensitivity, reliability, validity, and cost.

That's exactly what Jennifer Moore, a physical therapist and manager of internal education at the Rehabilitation Institute of Chicago, is putting the finishing touches on.

"Therapists want to monitor the progress of their patients...without doing a literature search every time they need a new instrument."

Dr. Allen Heinemann

"We're building a database that will help clinicians understand the research evidence that supports specific assessment instruments and help them translate the information to clinical practice," said Moore.

The Rehabilitation Measures Database, which is currently undergoing beta-testing, allows therapists to select an area of assessment that runs the gamut from balance to mental health. They then click on a diagnosis such as spinal cord injury or stroke, designate the desired length of the test and the cost—free or not free. Then they click "search."

A few seconds later, a list of tests comes up. For instance, choosing an assessment area of aerobic capacity with a diagnosis of stroke and no preference on length or cost produces a choice of a

...Continued on Page 5



Post-doctoral Fellow: Allan Kozlowski, PhD



Measuring things has always been something of a vocation for Al Kozlowski.

As a young man in Canada, he went to work for the Alberta Forest Service measuring timber reserves. Sometimes that involved being dropped by helicopter into remote regions to assess the density, age and height of the trees. Other times,

Kozlowski crawled on his hands and knees counting seedlings to see how quickly a deforested area was recovering.

Between the marshes, the insects and the bears, it wasn't work for the faint of heart. "It was more pleasant at some times of the year than others," Kozlowski says with a smile.

Now Kozlowski is tackling a daunting challenge of a different sort—encouraging clinicians to objectively measure the results of physical therapy. It's one of the reasons he was awarded a post-doctoral fellowship in health services research at Northwestern University last year.

"People are people before they are professionals. We're creatures of habit and, as much as we say we embrace change, we really don't," he said. "Anything that puts you on the difficult part of the learning curve, people resist."

Kozlowski has been wrestling with such clinician resistance for some time now. A broken hand and some physical therapy led to a career change in the mid-1980s. After getting his undergraduate degree in physical therapy, Kozlowski went to work in the early 1990s at a government rehab center in Vancouver, Canada serving those with work-related injuries. He developed a reputation for achieving very good results for patients with shoulder injuries. Yet Kozlowski felt his results were "abysmal."

"Clearly we didn't see the same things or think the same way," he says.

But when Kozlowski went in search of ways to measure his results, he didn't find much. "I was really dissatisfied with the lack of tools provided by the profession."

So were others in the rehab world. The Canadian Physiotherapy Association began making a push to develop rehab measures, as did the American Physical Therapy Association.

Subsequently, Kozlowski received a promotion to senior therapist and was asked to implement some existing measurement tools and get other staff members excited about them.

"I failed," he says candidly. "Two and half years

later, we were no further ahead. We were still talking about it." Another promotion—to a management level post this time—and another push to bring in new assessment techniques yielded the same result: failure.

"A few changed, but the majority, it was a challenge to get them beyond vague statements of 'the person still has pain,'" Kozlowski remembers.

In 2003, his rehab center closed as the government began outsourcing rehab services to less expensive, privately owned clinics. Kozlowski went back to school for his Ph.D. in 2004 and decided to continue his work in measuring outcomes. Fortunately, new tools were starting to roll in.

One category was self-report questionnaires that asked patients to rate their abilities to perform tasks such as walking a mile or climbing a flight of stairs. Researchers found that patients' self-reports could be as accurate as performance-based tests administered by clinicians, which also were more expensive. Yet a 2009 study by the American Physical Therapy Association found that less than 50 percent of clinicians were using questionnaires in their practices.

"Clinicians are a tough group to convince," Kozlowski says.

They also have legitimate concerns, he acknowledges. "Some clinicians might be concerned that their performance will be found wanting. People don't want to be penalized. They have a vested interest in not knowing whether something is effective. On the other hand, current outcome evaluation methods literally provide too little information to clinicians too late to be of value to the patient in front of them."

During his time in Chicago, Kozlowski will continue to study the methods that clinicians and organizations use to measure patient outcomes.

He is looking into what information already

"Current outcome evaluation methods provide too little information too late to be of value to the patient in front of them."

Dr. Allan Kozlowski

is stored in the electronic health records of patients at Rehabilitation Institute of Chicago and in other databases. His goal is to employ statistical methods that focus on modeling individual change over time to develop more informative methods of evaluating outcome data. Ultimately, this could result in real-time prognostic and evaluative tools that would aid in making immediate clinical decisions and could change the way we think about outcomes.

...Continued on Page 4

Evaluating Motivational Interviewing for Patients with Arthritis



Dr. Linda Ehrlich-Jones,
Principal Investigator

Not that long ago, people with arthritis were told by doctors and clinicians that the best way to ease their aching joints was to take it easy. It was a virtual license to rest, and many of them did just that.

Now most rheumatologists believe that moving around is the optimal way for patients to reduce inflammation and keep their weight under control. But that's not always an easy sell to patients who are in pain and frequently out of shape. Simply telling them to get up and move hasn't been very effective in reducing sedentary behavior.

Some research scientists such as Linda Ehrlich-Jones of the Rehabilitation Institute of Chicago (RIC) are borrowing a technique from the world of substance abuse to see if approaching arthritis patients differently will yield better results.

It's a counseling style called motivational interviewing, and it has several primary components, including asking open-ended questions to get the patients talking. It also involves providing affirmation for positive changes in patients' behavior or thoughts. "We usually don't tell people what a great job they are doing. It helps build a relationship," said Ehrlich-Jones, RN, PhD and past president of the Association of Rheumatology Health Professionals.

The third and most important component is reflective listening, which at its most basic level involves repeating a patient's comments back to them. At a deeper level, it helps interviewers express their understanding of the meaning behind the words which helps build bonds with their patients.

"It can be very empowering for the patient to know someone is behind them and listening to them," she said. "If the idea comes from you, you're more apt to do it and sustain doing it."

Motivational interviewers give advice with permission from the patient. And they also can impart information such as letting patients know that the U.S. Surgeon General recommends 150 minutes of moderate intensity activity on a weekly basis.

Ehrlich-Jones has been working with arthritis patients for 30 years. She recently finished work on a five-year study led by RIC's Dr. Rowland Chang. The study focused on using motivational interviewing with roughly 350 patients, 176 of them with rheumatoid arthritis (RA) and the rest with osteoarthritis of the knee.

Ehrlich-Jones and several occupational therapists used motivational interviewing to find out how active patients were and what kinds of barriers they experienced. "You can work through those barriers if you know what the issues are," Ehrlich-Jones said.

The goal wasn't to get the arthritis patients into the gym or some heavy-duty workout routine. It was to encourage "lifestyle physical activities," which include gardening, shopping and cleaning among others.

Key to the study was getting patients to come up with their own ideas about ways to include more physical activity in their lives. One patient decided to join the local zoo as an incentive to go walking regularly. Another decided to train for a marathon and actually ran one.

"The idea comes from the individual and we are there to support them and help them move forward," Ehrlich-Jones said. "People get very excited when they have a goal and are able to achieve it."

Ehrlich-Jones was a perfect person for the study because of her interest in behavior change and her experience with arthritis patients, her col-

leagues say. "She really has been a spectacular leader in generating ideas for our group," Chang said. "She is the ideal person to design interventions for this population."

The therapists met periodically with patients to discuss their progress and goals. Ehrlich-Jones along with the research team is now in the process of analyzing the data and writing up the results in publishable form.

So far, it looks like the osteoarthritis patients did increase their physical activity but that didn't have a big impact on their functioning or pain level. The rheumatoid arthritis patients showed a slight increase in physical activity but that appears to have declined over time. They also did not experience much improvement in pain or function.

"From a statistical standpoint, I don't know if we showed a big impact, but we're not giving up," Ehrlich-Jones said.

Chang agrees: "We were a little disappointed but we learned a lot. We're thinking that experience will help us in our new endeavor."

Ehrlich-Jones still believes that more physical activity is better for arthritis patients and she has landed her own grant from the National Institute for Nursing Research to do follow-up work. She is currently creating a survey to be filled out by patients to get their feedback on the motivational interviewing process. She will start by talking with patients face to face in focus groups.

The \$350,000 grant, which started last July, will run through June 2013. Along with Chang, Ehrlich-Jones will be recruiting another group of arthritis patients—30 with rheumatoid arthritis and 30 with osteoarthritis—to undergo the motivational interviewing process.

This time, the interviewers will weave in diet and nutrition information because many patients in the first study indicated they were interested in losing weight. The new group also will be asked to wear an accelerometer, a device that measures a person's acceleration and deceleration. "We can see how many times people are active. We will be able to see whether that changes," Ehrlich-Jones said. "I'm hoping to show that the motivational interviewing process is involved in that change."

Ehrlich-Jones is funded for 75 percent of her time for this research grant. In addition, Ehrlich-Jones' grant has a career development component that allows her to take classes and attend professional meetings around the country.

She says she is enjoying learning to be a principal investigator, and she has four mentors who are helping her along the way, including Chang and Allen Heinemann, PhD and director of the Center for Rehabilitation Outcomes Research at RIC. The two others include JoEllen Wilbur, PhD and associate dean for research at Rush University's College of Nursing, and Cheryl Cox, PhD and faculty member at St. Jude's Children's Research Hospital in Memphis.

"I have lots of help, which is good," she said.

Comments?

Your opinions are important to us!

If you have information you would like to share with our readers, such as a suggestion regarding our research or a comment about an article, please email your comments to hdemark@ric.org.

We also welcome feedback about CROR Outcomes, published quarterly by the Center for Rehabilitation Outcomes Research. We reserve the right to edit published letters to the editor for brevity.

Terrie Black, Rehabilitation Nurse (Continued from page one)

ciation to take the survey and provide additional feedback.

“Terrie is a very bright nurse,” said Anne Deutsch, RN, PhD and a clinical research scientist at RIC, who met Black back in 1995 when both of them worked at the University of Buffalo. “She brings a lot of clinical experience and she is very well connected to the rehabilitation industry.”

A resident of Williamsville, N.Y., outside Buffalo, Black will be flying to Chicago at the end of March for a meeting of the interdisciplinary advisory committee, which also includes physicians, psychologists, physical therapists and occupational therapists. The group met for the first time in April 2010 and members stay in touch between meetings by email and phone. Black is serving a five-year term on the committee.

In addition to discussing Moore’s instrument database, the committee also will be talking about a project by RIC’s Susan Magasi, PhD, which is exploring the accuracy and accessibility of instruments that assess patient cognition. Committee members will review data and watch videos in April of participants with a disability who struggle with conventional assessment methods, and give feedback to Dr. Magasi about reasonable accommodations. Black’s nursing perspective will be a valued addition to the discussion.

Meanwhile, Black can’t say enough good things about the research that the RIC is tackling. “It’s just amazing the work that Allen Heinemann and his group do there. It’s just overwhelming. Being on this committee, I have greater appreciation for the volume and quality of research they do. The field needs it.”

When she is not spending her time on RRTC issues, Black works as a disease-specific care reviewer with the Joint Commission, an accreditation organization

for hospitals and healthcare organizations based in Oakbrook Terrace, Ill.

With her background in rehab nursing, Black assesses whether facilities merit certification in rehabilitation care for patients suffering from stroke, spinal cord injuries, amputations or brain injuries. Certification indicates the facilities meet rigorous standards and provide a high quality of patient care. Currently, over 18,000 programs are either accredited or certified.

Black also does a lot of lecturing on rehab nursing. She recently chaired a committee on the state of the science nursing symposium in Los Angeles and then spoke at a medical facility there.

When she isn’t working, Black is an avid reader and book club member who enjoys Pilates and traveling with her husband. She serves as a mentor to nursing students at her alma mater, Penn State University. She also is a big fan of the National Football League and college football and even took second place in a Fantasy Football league last year.

But please don’t talk about the Super Bowl champion Green Bay Packers. Black is an avid Steelers fan. “Being born and raised in the Pittsburgh area, there is no other choice!” she says.



Dr. Allan Kozlowski (Continued from page two)



As part of his fellowship, Kozlowski also is taking classes at Northwestern University’s Institute for Healthcare Studies, and has completed one on healthcare economics and another on epidemiology, which looks at the course of disease in order to develop solutions.

Kozlowski has quickly integrated himself into the ethos and activities at the research and training

center, said Allen Heinemann, director of the Center for Rehabilitation Outcomes Research. “Consistently people have enjoyed working with him. He offers valuable insights and is a pleasure to work with.”

His busy schedule doesn’t leave much time for a personal life, but Kozlowski makes the most of what he has as a “happily single” resident of Uptown whether that

means dining out or catching a movie. He also indulges in at least one activity that might give a physical therapist pause—snowboarding. He says he isn’t intimidated by the risk of a head injury or a blown-out knee. He argues the danger of snowboarding is no greater than that involved in skiing.

“I always wear a helmet. It won’t save you but it will reduce or eliminate damage to your brain.”

To keep in shape during the winter, Kozlowski has been commuting by bike to work except when the snow flies. At home, he has a bike mounted on a trainer. He recently joined a cycling group that has a communal ride every Saturday morning.

It sometimes gives him pause that he is still somewhat at the beginning of his career at the age of 49. His brother, an academic, recently retired with a full pension at the age of 55.

“He chose a single career path early on. I chose to do different things and when I was confronted with challenges to take them on. I’m still doing it.”

Rehabilitation Measures: Online Database (Continued from page one)

two-minute or six-minute walking test. General instructions for administering the test are provided along with a form to be filled out by the clinician. Also included are several references to published articles on the subject.

The database is currently focused on three areas: spinal cord injury, stroke and traumatic brain injury. However, the vision for the database is to become the primary resource for rehabilitation clinicians to find and learn about instruments for individuals with a variety of conditions.

The idea for the free online database came from Trudy Mallinson, the former associate director of RIC's Center for Rehabilitation Outcomes Research. Mallinson consulted with Moore and other developers of a similar database for in-house use that was dubbed "The BRAIN," an acronym for The Battery of Rehabilitation Assessments and Interventions in Neurology.

"Therapists want to monitor the progress of their patients, but doing a literature search every time they need a new instrument is time consuming," said Allen Heinemann, director of CROR. "It was well received internally so Trudy's thought was 'Let's take it to the world.'"

Clinicians at area hospitals, clinics and skilled nursing facilities were invited to be part of the development process through focus groups. Their input indicated they wanted a database to be simple to use and fast. Moore took their wishes to heart. "It's very brief and to the point. It's the Cliffs Notes version," she said.

Building the database isn't just as simple as compiling a list of tests and letting clinicians "run with it." Moore is also describing the validity of each test. "Is the instrument measuring what we think it's measuring? If it's a balance assessment, is it measuring that or something else? Moore said. "Some

measures ask patients questions about balance instead of testing balance. That would help us measure the patient's subjective view of their disability."

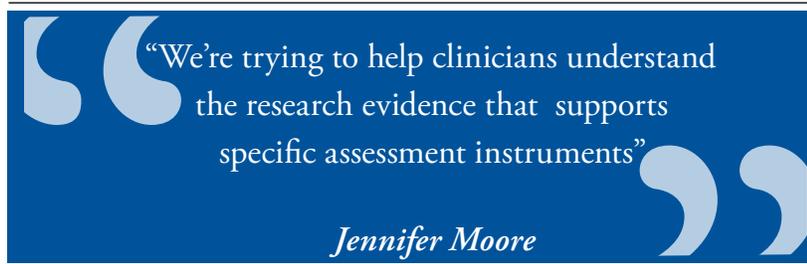
Another challenge is helping clinicians figure out what level of change is significant. Whenever a test is administered, there is always some measurement error. The Rehabilitation Measures database reports how much change a clinician needs to see to be sure the patient is outside of the measurement margin of error. "We need to know if the change we see is real change and if it's meaningful for our patients," Moore said.

To maximize its use, the database is focused on affordability. Moore is including as many free instruments as she can. Occasionally that's not possible. "Sometimes instruments can be very costly. The ones in the database are free or close to free. A few fee-based instruments are in there because there are no publicly-available options," she said.

The database project is funded through the duration of the Rehabilitation Research and Training Center on Improving Medical Rehabilitation Outcomes and will be free to users. Moore has an alert set up to let her know when new instruments become available or new data are published. She also is soliciting peer reviews of the instruments.

What will happen after the five-year funding period isn't yet clear. But Heinemann is hopeful that further funding will be forthcoming either from grants or a Wiki model of user contributions.

But first things first, adds Heinemann. "We need to get a good product out there."



Invitation to beta test the Rehabilitation Measures Database

Dear colleague,

I would like to extend an exciting invitation to you. We are developing a new web-based, searchable database of assessment instruments, and we'd like you to test an early version of this website.

Currently, there are over 50 instruments in the database that could be used to assess individuals with stroke and spinal cord injury. We plan to expand this database substantially to include many other diagnoses over the next few years.

You are invited to beta test the Rehabilitation Measures Database. If you agree to review our website, please visit: www.rehabmeasures.org.

During your review, perform searches that are relevant to you, including searches using the drop-down box, word search and refine search features. Also, please take time to review 4 – 6 instrument summaries and the PDF of the instrument (if available). Please note during your review that the instruments currently in the database have only been extensively reviewed for individuals with stroke. Further, these summaries are not meant to be comprehensive reviews of the entire body of research on the instrument, but rather a sampling that reflects the instrument's utility and feasibility.

Once you are done reviewing the website, please complete the survey located at:

<http://www.surveymonkey.com/s/72SCW5K>

Please submit your review by March 15, 2011.

Your participation in database testing is voluntary. The results of this survey may be published or presented, but you will not be identified in any way. If you decide to stop participation at any time you may do so without penalty.

If you have any questions, please contact:

Jennifer Moore PT, DHS, NCS
Rehabilitation Institute of Chicago
312-238-5624 or jmoore@ric.org

A screenshot of the Rehabilitation Measures Database website. At the top, there is a logo with a green tree and the text "Rehabilitation Measures Database". Below the logo is the tagline "The Rehabilitation Clinician's Place to Find the Best Instruments to Screen Patients and Monitor Their Progress". There are navigation links: Home, Complete List of Instruments, Statistics Review, Links, Take a Tour, and About Us. Below the navigation is a search interface with four dropdown menus labeled "Area of Assessment", "Diagnosis", "Length of Test", and "Cost", each with "No Preference" selected. Below the dropdowns is a search bar with the placeholder text "Enter search term for full-text search" and a "Search" button. At the bottom, there is a link "Didn't find what you were looking for?" and a "Search Again" button.

Training and Education Opportunities

Summer Institute on Measurement in Chicago

The June 20th-21st 2011 Summer Institute on Measuring Rehabilitation Outcomes will provide an introduction to both professional and student-level rehabilitation researchers who desire to develop skills in applied and theoretical measurement.

This dynamic, two-day course will be led by Richard Gershon, Ph.D. and Nan Rothrock, Ph.D. They will cover crucial topics including Item Response Theory, Computerized Adaptive Testing methods, introduction to the Patient-Reported Outcomes Measurement System (PROMIS) as well as Assessment Center (a free, online application that allows researchers to centralize research activities), Rasch Model theory, instrument development, and related measurement and analysis tools. Classes will be held from 8:30 to 4:00 with an hour break for lunch.

The Institute will be held in a downtown Chicago facility, conveniently close to the Rehabilitation Institute of Chicago located on the medical campus of Northwestern University.

Registration will open on March 18. Classroom size will be limited to 35 participants. To be notified when registration opens, or for more information about the summer institute on measurement, please contact Joyce Siragusa at jsiragusa@ric.org.



Quality Measures for Rehabilitation: Policy, Provider and Patient Perspectives

Dr. Anne Deutsch is pleased to announce a pre-course to the American Congress of Rehabilitation Medicine - American Society of Neurorehabilitation Annual Conference in Atlanta this October. "Quality Measures for Rehabilitation: Policy, Provider and Patient Perspectives," will be held Tuesday, October 11, 2011 at the Hyatt Regency Atlanta.

This course is a timely addition to the national conversation: The Patient Protection and Affordable Care Act of 2010 requires the Secretary of Health and Human Services to publish quality measures for inpatient rehabilitation hospitals and units by October 1, 2013 and data on these quality measures will be submitted to CMS starting in fiscal year 2014.

Description of the Course:

The course will begin with a review of the key characteristics of a quality measure, including the review criteria (importance, scientific acceptability, usability and feasibility) used by the National Quality Forum.

The second segment will include a review of the current status of quality measures from several perspectives. Dr. Barbara Gage will discuss the public policy perspective. Ms. Suzanne Snyder will discuss work underway by the rehabilitation industry through the Quality Committee of the American Medical Rehabilitation Providers Association (AMPRA), and Ms. Holly Neumann will summarize research describing the public's response to rehabilitation quality measures.

The third segment of the course will focus on data collection and data analysis challenges. This will include presentations focused on several case-mix adjustment approaches and challenges in defining adverse events occurring in inpatient rehabilitation programs.

The final segment of the course will include a panel of researchers who will discuss possible future policy changes that would affect rehabilitation care and potential research opportunities related to these changes. Topics include proposals that bundle acute and post-acute care, CARE tool, the standardized patient assessment instrument that is currently undergoing testing for use by all post-acute care providers, and potential unintended consequences.

We will allow time for participants to ask questions after each segment. In addition, we have scheduled 30 minutes at the end of the day for questions and discussions.

Registration:

Please visit www.acrm.org to see a preliminary program and find out about registration. For more information about the pre-course, please contact Dr. Deutsch at adeutsch@ric.org.

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Recent CROR Dissemination Activities

Manuscripts

Babbitt E, **Heinemann AW**, **Semik P**, Cherney L. **Psychometric Properties of the Communication Confidence Rating Scale for Aphasia (CCRSA):Phase 2**, *Aphasiology*, iFirst,2011, 1-9.

Ehrlich-Jones, L., Mallinson, T., Fischer, H., **Bateman, J.**, Semanik, P., Spring, B., Ruderman, E., & Chang, R. (2010). **Increasing physical activity in patients with arthritis: A tailored health promotion program.** *Chronic Illness*, 6, 272-281.

Heinemann AW, Tulsky D, Dijkers M, Brown M, Magasi S, Gordon W, **DeMark H.** **Issues in participation measurement in research and clinical applications.** *Archives of Physical Medicine and Rehabilitation*, 91(suppl), S72-S76, 2010.

Abstracts

Heinemann, AW. **Health Literacy and Public Reporting of Quality Measures for Medical Rehabilitation Programs.** Paper presented at the American Academy of Physical Medicine and Rehabilitation, Seattle, WA, November 4, 2010.

Reistetter T, Seale G, **Deutsch A**, Markello S, Granger C, Ottenbacher K. **Differing Discharge FIM Rating Value for Classifying Return to the Community of Older Adults Receiving Inpatient Rehabilitation Following a Traumatic Brain Injury.** *Archives of Physical & Medical Rehabilitation* 2010;91:E13

Reistetter T, Graham J, **Deutsch A**, Karmarker A, Eschbach K, Granger C, Ottenbacher K. **Geographic Patterns in Rehabilitation Outcomes Following Stroke.** *Archives of Physical & Medical Rehabilitation* 2010; 91, E28

Stenson KW, Chen D, **Deutsch A.** **A Comparison of Medicare Patients in the SCI Model System Database and the National Medicare Databases.** *PM&R - the Journal of Injury, Function and Rehabilitation* 2010;2(9S), 161.

Presentations

Deutsch A. **Overview of Medicare and Medicaid Claims and Assessment Data.** Health Disparity and Disability Meeting. Schwab Rehabilitation Hospital. Chicago, IL. January 10, 2011.

Deutsch A. **Health Measurement: Applications.** Lecture for Topics in Health Services and Outcomes Research (HSR 454) course, Northwestern University Feinberg School of Medicine. Chicago, IL, January 27, 2011.

Deutsch A. **Quality Measures for Rehabilitation Programs.** Chicagoland

Physical Therapy Director Meeting, Advocate Health Care Corporate Office, Oak Brook, IL; February 10, 2011.

Deutsch A. **Health Care Reform: Linking Research to Policy and Implications for Rehabilitation Nursing.** Rehabilitation Nursing Foundation Dinner Symposium, Association of Rehabilitation Nurses 36th Annual Educational Conference, Orlando, FL; October 1, 2010.

Deutsch A. **Quality Measures for Rehabilitation Programs,** Association of Rehabilitation Nurses 36th Annual Educational Conference, Orlando, FL; October 2, 2010.

Heinemann, A. **Introduction to Contemporary Psychometrics.** Lecture for Topics in Health Services and Outcomes Research (HSR 454) course, Northwestern University Feinberg School of Medicine. Chicago, IL, January 13, 2011.

Heinemann A. **Health Measure Development Tools and Activities.** Lecture for Topics in Health Services and Outcomes Research (HSR 454) course, Northwestern University Feinberg School of Medicine. Chicago, IL, January 13, 2011.

Heinemann A. **What Outcomes Have You Measured Lately?** RIC Clinical Grand Rounds, January 10, 2011.

Heinemann A. **Perceptions on Outcome Measurement in Rehabilitation Psychology.** Panel Presentation at the Rehabilitation Psychology Mid-year Meeting, Jacksonville, FL, February 25, 2011.

Kozlowski, A. **Current Research in the Measurement of Outcomes in Brain Injury Rehabilitation.** Seminar Series, Institute for Healthcare Studies, Feinberg School of Medicine, Northwestern University, Chicago, IL. October 21, 2010

Kozlowski AJ. **Overview of Measurement in Health.** Lecture for Topics IV in Health Services and Outcomes Research (HSR 454) course, Northwestern University Feinberg School of Medicine. Chicago, IL, January 6, 2011.

Gage B, **Deutsch A.** **The Post-Acute Care Payment Reform Demonstration and Other Medicare Initiatives.** Northwest Association of Rehabilitation Facilities Educational Meeting. Seattle, WA, November 5, 2010

Lau, DT, Joyce, B, Clayman, M, Dy, S, **Ehrlich-Jones, L**, Emanuel, LE, Hauser, J, Paice, J, Shega, J. **Hospice providers' reported practices in helping informal caregivers manage medications for home hospice patients.** American Public Health Association Annual Meeting, Denver, CO. November 8, 2010

See more at: <http://www.ric.org/research/centers/cror/publications/index.aspx>

Acknowledgements

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Visit <http://www.ric.org/cror> and click on "Newsletters."